

May 17, 1951

Dr. H.M. Miller Jr
The Rockefeller Foundation
49 West 49th Street
New York 20, N.Y.
U.S.A.

Dear Dr. Miller:

Last time you were here I promised to write you about the general situation of the Department of Physics of the "Faculdade de Filosofia, Ciências e Letras da Universidade de São Paulo". My delay in writing this letter was due to the fact that some modifications were planned in the internal structure of the Department which have now taken place.

Essentially there are four chairs composing the Department: "Física Geral e Experimental, Mecânica Racional e Mecânica Analítica, Física Superior e Física Teórica e Matemática". These chairs now have a relative independence, except when there are problems of common interest, being then subordinate to an Administrative Council constituted by the professors of the above mentioned chairs and the Director of the Faculdade.

Under the chair of "Física Geral e Experimental" the responsible is Prof. M.D. de Souza Santos, and with him work Dr. Romulo R. Pieroni, Mr. José Goldenberg (2nd assistant) and Mr. Ely Silva (3rd assistant). This group is responsible for the research work related to the betatron and to the mass spectrograph that was bought and that should arrive shortly.

Under the chair of "Física Superior" the responsible is Prof. H. Stammreich and with him work Mr. Osvaldo Sala (1st assistant) and Mr. Roberto Forneris (with a contract). The research under this chair is in the field of spectroscopy.

Under the chair of "Física Teórica e Matemática" the responsible is Dr. W. Schutzer, 1st assistant, and with him work Mr. Paulo S. Toledo (2nd assistant) and Mr. Paulo L. Ferreira (3rd assistant). Subordinate to this chair, for internal reasons, is the section of cosmic rays, which I will mention later on.

Under the chair of Mecânica Racional e Mecânica Analítica, the responsible person is Prof. Abrahão de Moraes, in the absence of the Professor Catedrático, Prof. Mario Schoenberg. Also connected with this chair are; Dr. Jayme Tiomno (1st assistant) and Mr. Léo B.Vieira (3rd Assistant).

Besides the above Prof. Sala is working in the Department, in charge of the construction of the electrostatic Generator and a course of Nuclear Physics. Working with Prof. Sala is Dr.P.B. Smith of the University of Illinois.

Working in the cosmic ray section are; Mr. Jean Meyer, Mr. André Wataghin and Mr. George Schwachheim. All those have a contract with the Faculdade.

As far as plans for the future I will speak only of the chairs of Física teorica e Matematica, Mecanica Racional e Analítica, the cosmic ray section and the Van de Graaff generator. I will ask Prof.Souza Santos to write to you concerning the chairs of "Física Geral e Experimental e Física Superior".

In the first place we intend to contract a professor for the chair of Física Teorica. We already have several names under consideration and we hope that the question will be resolved by the beginning of the second semester(August 1st). As soon as the professor is contracted I will inform you. We expect that this professor will direct the research of our students in Theoretical Physics including Quantum Mechanics. As you probably know, the Department has already done some work in theoretical Physics and I will make every effort to develop this section.

Also we will try to get the help of another professor, specialized in studies on cosmic rays, in order to develop the cosmic ray group. There is some possibility of contracting such a professor through the Faculdade, or with the help of the Conselho Nacional de Pesquisas. The Department has, in this part, distinguished itself in this field. Prof. G.Wataghin and his collaborators were the first to study penetrating showers, the variation with altitude and the multiple production. After Prof. Wataghin left, Meyer, Wataghin and Schawchheim continued these studies, and have published in several journals. They

are helped in this research by some students. The group hopes to make an expedition to Morococha (4500m) in Perú, under the auspices of UNESCO. This expedition has not taken place yet only due to a lack of transportation facilities. It is my intention to provide a trip abroad for every member of this group, at different times. I consider this indispensable to their development. I also want to increase the personell of this group, by means of fellow ships which I hope to get from the Conselho Nacional de Pesquisas.

With respect to the work on the Van de Graaff the present situation is the following. The new building is in condition to start the construction of the machine. Up to now the actual assembly has been impossible due to a lack of money. The Fundação Getulio Vargas has given some money for this project, and was to give enough for it completion. However the Fundação has still not provided the remaining payments that should have been delivered in December 1950. Considerable work has been done by this group however, in particular on the ion source, through great personal sacrifice. Part of the material needed in the construction of the Van de Graaff generator has been provided by the Rockefeller Foundation. Prof. Sala wishes to develop a program of collaboration with American and Brazilian Universities, as he has previously written to you. I think that this idea is a very good one for the development of the Department, at this time when we are trying to expand the various fields in which we are working.

With best regards to you, I remain

very sincerely yours

Abrahão de Moraes